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RICHARD A. WERNER

## A Reconsideration of the Rationale for Bank-Centered Economic Systems and the Effectiveness of Directed Credit Policies in the Light of Japanese Evidence

**Abstract:** Directed credit is seen by recent literature as having contributed to high post-war economic growth in several Asian countries, including Japan, Korea, Taiwan, Thailand, and Indonesia. Its use, however, remains controversial. This paper adopts ex ante predictive power as criterion for the evaluation of the usefulness of theories and policies. For this purpose it attempts to identify the historical rationale of the credit direction policies adopted by Japan—the East Asian country that developed earliest and most successfully. It is found that Japan's directed credit policymakers modeled their system on the practice of the Reichsbank, under its president Hjalmar Schacht in the 1920s, and the economic thought of German development economists at the time, who argued for a

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strong role of banks as conduits of official guidance within an overall growth-oriented institutional design. This paper provides some support for directed credit policies and offers an alternative explanation for the emergence of a bank-based financial system in Japan and other countries.

### **Part I: Directed Credit, Bank-Based Economic Structures, and Economic Development**

This paper has two aims. First, it attempts to contribute to the debate about the rationale of bank-based financial systems in certain countries. Second, it re-examines the evidence concerning the viability of development policies that rely on the direction of bank credit. Empirical evidence is used to support both aims.

#### ***Directed Credit***

The link between finance and growth has increasingly drawn the attention of mainstream development economists. Empirical work by Goldsmith (1969), McKinnon (1973), and, more recently, King and Levine (1993a, b), Roubini and Sala-i-Martin (1992), Levine and Zervos (1993), Beck et al. (2000), and others demonstrated a positive link between the financial sector and economic development.<sup>1</sup> The role of government intervention is also the focus of a lively debate in development economics. A large body of literature recommends minimal regulatory, cyclical, or allocative intervention. However, other research has pointed out that when certain assumptions (especially of perfect and complete markets) are relaxed, there may be scope for government intervention in economic development, including in the form of conscious institutional design to create efficient incentive structures.<sup>2</sup> Both strands of literature converge in the issue of government intervention in financial markets and its potential to enhance economic growth. A theoretical case has been made by Stiglitz (1994), Besley (1994) and Stiglitz and Uy (1996), based on Stiglitz and Weiss (1981), Greenwald and Stiglitz (1986), and others.<sup>3</sup>

Empirical evidence also suggests that government intervention

in financial flows has made a positive contribution to economic development in various countries. A widely noticed example is the World Bank's (1993a) East Asian Miracle study, which, based on multiple contributions from researchers on many Asian countries, concluded that the policy to direct credit was an important factor contributing to strong economic performance. The World Bank's Operations Evaluation Department also gave a positive review of over forty years of experience of directed credit in the rural sector of developing countries (World Bank 1993b). Wade (1990) has argued that credit allocation has been an important contributor to Taiwanese economic success. Calder (1993) has emphasized the importance of credit allocation policies in post-war Japanese economic development. Eastwood and Kohli (1997) found that the post-war program of directed credit in India was "well-conceived and successful in the case of small modern sector firms" (p. 17), by alleviating an existing credit constraint and increasing investment and employment. Cho and Hellmann (1993) argue that government-led direction of credit helped overcome pervasive market imperfections in Japan and Korea.

Nevertheless, the issue of the role of government intervention in general and of directed credit in particular in supporting growth remains disputed. Many economists argue that Japanese (as well as Korean and Taiwanese) strong economic performance occurred *despite*, not because of, such intervention (Vogel and Adams 1997; Noland and Pack 2001). Regional development banks, such as the Inter-American Development Bank and the Asian Development Bank, continue to explicitly discourage developing countries from engaging in directed credit.<sup>4</sup>

There is a hitherto little-explored approach to throw new light on this question. Friedman (1953) proposed the use of an economic theory's *predictive ability* as criterion to assess the theory's accuracy.<sup>5</sup> *Ex post* predictive power is commonly measured through in-sample forecasting tests. A more stringent test of predictive ability is, however, its *ex ante* application, namely the ability of a new policy to actually achieve its intended goals over time.<sup>6</sup> Thus, to evaluate the success of credit direction policies, we need to identify the rationale for their original introduction, and then assess

whether they achieved the goals for which they were introduced. Since those who introduced them did not possess the perfect hindsight that we now enjoy, this test is superior to back-testing theories developed after the fact. However, so far there is no work on the historical origins of the credit direction policies employed in many East Asian countries. It is agreed that the first country to employ them successfully is Japan, which will therefore be the focus of our inquiry.

### *Bank-Centered Economic Systems*

Economic systems that are characterized by a greater reliance on banks for resource allocation, such as exist in Japan and Korea, have increasingly attracted the attention of economists. So far, the existence of bank-centered financial systems has been explained with the monitoring function of banks.<sup>7</sup> A bank-based financial system is seen to thrive on information advantages. Banks, unlike stock markets, may be able to engage in closer monitoring of companies (Sheard 1989, Aoki 1994, Okazaki and Okuno-Fujiwara 1999).<sup>8</sup> The main bank system is said to reduce the cost of financial distress (Hoshi 1994). Interlocking shareholdings are seen as a method to share risk (Sheard 1994).

However, empirical research has provided little *ex post* support for the "monitoring" rationale of bank-based financial systems.<sup>9</sup> Moreover, there is no empirical evidence that the monitoring rationale was an *ex ante* consideration in the emergence of bank-based financial structures in Japan, Korea, or other Asian countries. For instance, there is no evidence that any of today's literature on monitoring was known to contemporary decision-makers, nor is there evidence that they developed theories with similar conclusions.

This is not to say that the bank-based financial system emerged by chance or by natural evolution. Hara (1966, 1977), Ito (1986), Nakamura (1995), Noguchi (1995), Okazaki and Okuno-Fujiwara (1999), and others have documented that the bank-based financial system emerged in Japan during the wartime as a result of conscious policies and government intervention that aimed at reshaping the institutional environment. The question therefore remains

what rationale *actually* motivated decision-makers at the time to introduce bank-based systems. As a by-product of our research into the historical origin of policies to direct bank credit, we will contribute an alternative rationale for the existence of bank-centered economic systems, namely that the introduction of a bank-based financial system within a consistent overall institutional design was a conscious attempt to enhance the effectiveness of policies to direct credit in the pursuit of developmental goals.

### **Part II: Directed Credit in Post-War Japanese Practice**

There is a rich literature on the institutional details and role of credit directed by the Ministry of Finance's Fiscal Investment and Loan Program (FILP), which, among others, provides funds for subsidized credit by government financial institutions.<sup>10</sup> However, government lending institutions account for less than 20 percent of all bank loans.<sup>11</sup> A far more wide-ranging tool of official intervention in the credit market to direct funds exists in the form of credit allocation policies imposed by the central bank on the entire commercial banking sector. Despite the more comprehensive nature of central bank-imposed direction of commercial bank credit, there has been little research on its historic roots and intellectual ancestry. Even the World Bank's East Asian Miracle study neglected to cover it.<sup>12</sup>

Despite its neglect in the recent literature, the direction of bank credit by the central bank has played an important role in Japan, as well as in Korea, Taiwan, India, Indonesia, Malaysia, and Thailand.<sup>13</sup> In Japan and Korea, the control of bank credit by the central bank was called "window guidance." In India, it was the "credit authorization scheme" (Eastwood and Kohli 1997). In Thailand, it was called the "credit-planning scheme" (Werner 2000b). These credit controls are usually employed in a dual function, namely to support the implementation of monetary policy (the quantitative aspect) and to support the allocation of resources (the qualitative aspect). We are primarily concerned with the qualitative aspect of credit guidance in this paper, which remains particularly under-

researched. What follows is a brief sketch of the key features of Japanese window guidance in the post-war era.<sup>14</sup>

The credit guidance in Japan consisted of regular meetings between the central bank and private sector banks, during which the Bank of Japan essentially instructed the banks on a quarterly basis on how much to increase or reduce lending. Overshooting and undershooting were punished. Banks first had to receive approval for the lending plans, and the central bank's Banking Department used the threat of sanctions, such as reduced loan growth quotas, to keep the private sector banks' plans identical to its own.

All loans were broken down into sectors (such as loans to individuals, wholesale/retail, real estate, construction or manufacturing sectors) and more detailed subsectors (iron and steel, chemicals, etc.), as well as by size of company (small and medium-sized businesses versus large businesses), and by use of funds (equipment funds, working funds).<sup>15</sup> All large-scale borrowers had to be listed by name. This information on the receivers of bank loans was used to direct credit to preferred industries that had been indicated as "priority" or could be expected to yield a high value added with respect to the overall policy goals.<sup>16</sup>

Compliance was assured by the monopoly power of the central bank to impose sanctions and penalties, such as cutting rediscount quotas, applying unfavorable conditions to its transactions with individual banks, or reducing window guidance quotas.<sup>17</sup> Contemporary researchers therefore concluded that window guidance policies were always implemented by the banks.

Concerning the origin of the post-war window guidance credit policies, Calder (1993) maintains that this "form of extralegal credit rationing is by no means traditional in Japan: it originated in the early 1950s and was not used extensively until after the more formal structure of financial controls was dismantled during the mid-1950s" (p. 88).<sup>18</sup> While others argue for an earlier emergence of directed credit, the literature agrees that it did not exist in the 1920s or most of the 1930s. The question therefore is, where did this intriguing policy tool come from and what was the rationale behind its introduction?

In the early post-war era, window guidance was closely linked to

a specific person, namely Bank of Japan (BOJ) governor Hisato Ichimada (governor from 1946 to 1954).<sup>19</sup> He took a keen personal interest in the direction of credit and often made the decision about whether a specific project should go ahead or not. Ichimada's "infallible" decisions over the life or death of a business project earned him the nickname "the Pope." In his 1984 obituary, his close associate Tadashi Sasaki explained that "he was called Pope, because under him the central bank's power was stronger than that of the government."<sup>20</sup> Ichimada's chosen successors, each a close associate of their predecessor, were influential in the determination of credit policy for about a decade each—and hence covered the entire postwar era: Tadashi Sasaki (deputy governor, 1962–69; governor, 1969–74), Haruo Maekawa (deputy governor, 1974–79; governor, 1979–84), Yashushi Mieno (deputy governor, 1984–89; governor, 1989–94) and Toshihiko Fukui (head of the banking department implementing window guidance, 1986–89; deputy governor 1994–98). They all continued the practice of directed credit throughout the postwar era (Werner 2001, 2002a, 2003). However, the question remains: Did Ichimada invent the credit guidance tool himself, and if so, on what basis? Or did he rely on theory and practice developed elsewhere?

### Part III: Historical Roots

#### *German Practice*

The first central bank known to have imposed credit restrictions was the German Reichsbank. Thus, to examine the historical rationale of this form of directed credit, it becomes necessary to examine the policies adopted by the German central bank in the first half of the twentieth century.

The Reichsbank initially implemented credit controls in 1912 and 1913, when quantitative restrictions on the large Berlin credit banks successfully slowed the pace of monetary growth (Bosch 1927). During World War I, the credit restrictions were simultaneously used for qualitative credit allocation policies, which were at the center of the system of a mobilized war economy.<sup>21</sup> In the

1920s, the Reichsbank's degree of legally enshrined central bank independence was unrivaled.<sup>22</sup> It used its powerful status to exert extra-legal control over the banking sector. Between 1924 and 1931, the Reichsbank, mainly under its president Dr. Hjalmar Schacht (1924–30), provided strict “guidance” to the banks about their loan extension. The discount rate was still announced, but it had become more of a public relations tool to distract from the true policy instrument, the credit guidance. The procedure contained both quantitative and qualitative elements. First, each bank had to apply to the central bank for its “loan contingent,” or “credit quota” (*Kreditrahmen*—literally, credit frame) for the coming period. The banks then proceeded to allocate their contingents among lenders. Once the quota was used, the central bank would refuse to rediscount any further bills presented by that bank and would punish further credit expansions (Dalberg 1926, p. 71).

Any quantity rationing of credit implies that decisions must be made about the allocation of the rationed quantity. Reichsbank President Schacht actively influenced the sectoral, regional, and otherwise qualitative allocation of credit.<sup>23</sup> The banks' sectoral allocation of loans was closely monitored and informal pressure used to direct credit into desired sectors, while suppressing it to undesirable ones. Schacht engaged in a far-reaching policy of structural reform, favoring certain regions, sectors, and institutions. The principle was to encourage credit extension for “productive” purposes and discourage it for others. Schacht gave preferential treatment to the agricultural sector, large cartels, and export-oriented firms (Mueller 1973). Moreover, Schacht was an outspoken supporter of rationalization, a movement that included closures, mergers, and acquisitions, and gained significance during the 1920s (today it would be referred to as “corporate restructuring”). Schacht wanted to eliminate overcapacities and reduce costs of industry by spreading mass production, increasing the concentration of industry and amalgamating companies, and by encouraging horizontal cartels with production controls (Mueller 1973). He was convinced that the German economy “must be fundamentally re-organized,” by mergers and closures.<sup>24</sup> He thus considered credit

“productive” that was allocated to favored large-scale industry, cartels, and export-oriented firms. Credit for consumption or social welfare facilities was not considered productive—what Schacht called “loans for luxury” (Peterson 1954, p. 71). Neither were margin loans, which he thought fueled stock market speculation.<sup>25</sup> Furthermore, Schacht also disfavored smaller firms. His reduction of credit allocated to small firms increased bankruptcies, a process Schacht expected to have a positive, cleansing effect on the economy.

The distinction between productive and unproductive uses of credit was strictly enforced by the Reichsbank via the commercial banks.<sup>26</sup> Moreover, the Reichsbank monitored to what extent its credit was used by banks to purchase foreign currency. The latter was only allowed for purposes that were “economically justified.”<sup>27</sup>

Commercial banks were cooperative, but reluctantly so. In 1924, a notification by the Reichsbank board to all its offices conceded that “the demand by the Reichsbank to be informed about the use of credit is occasionally criticized [by banks]. We categorically have to insist on it.”<sup>28</sup> Although there was no legal basis for its credit controls, the Reichsbank could rely on “moral suasion,” i.e., informal administrative pressure under the threat of sanctions. The latter could be highly costly for the banks. Schacht was not shy to summon top bank executives personally to deliver instructions. For effect, this was combined with the threat of cutting off banks from central bank funding in case of non-compliance.<sup>29</sup> One internal Reichsbank memo of 1924 dryly notes that the central bank wields “substantial means of exerting pressure,” which “it will not hesitate to employ.”<sup>30</sup>

Mueller (1973), a critic of Schacht's direction of credit, concluded: “His credit allocation policy was an active, inter-sectoral structural economic policy, agricultural policy, cartel policy, and so on, for which only a government that has been legitimized by parliament is responsible, but not the Reichsbank” (p. 59).<sup>31</sup> Based on the far-reaching influence of his credit controls, contemporaries recognized in him a “credit dictator” or “economic dictator” and called the Reichsbank Germany's “second government” (Salin

1928, Dalberg 1926, Mueller 1973). The noticeable public outcry against Schacht by critics is evidence of the effectiveness of his credit controls.<sup>32</sup> Even Schacht himself spoke of "dictatorial measures" when referring to his intervention in the credit market in 1924.<sup>33</sup>

Facilitated by the long tenure of Schacht as president of the Reichsbank, his policies of directed credit became institutionalized. In 1930, the government published an evaluation of the credit supply of industry and commerce in Germany.<sup>34</sup> This included detailed statistics of bank credit, broken down by industrial sector of the borrower.<sup>35</sup> Industrial activity was broken down into thirty-nine industrial sectors. Another similarly comprehensive study of the sectoral breakdown of bank credit was published in 1934 by the Reichsbank itself (Reichsbank 1934).

#### *Directed Credit as Part of the Institutional Design*

The quantitative and qualitative controls continued in the later 1930s, as the Reichsbank obtained expanded legal powers to "guide" bank credit. These included exchange controls that could be used to allocate credit mainly to priority and export-oriented industries. The 1935 banking law (*Reichsgesetz ueber das Kreditwesen*) legally required banks to regularly disclose to the newly created banking supervisory authority (*Aufsichtsamt fuer das Kreditwesen*) details of the names of the debtors receiving large-scale loans.<sup>36</sup> It was headed by the *Reichskommissar fuer das Kreditwesen*—who happened to be the president of the Reichsbank (Hjalmar Schacht).<sup>37</sup>

Thanks to Schacht's rationalization drive, industrial concentration and the number of cartels increased steadily over the 1920s, and again in the 1930s. All the while, the top-down direction of credit strengthened the role of banks in this system. Their power was enhanced by the fact that in the universal banking system they also controlled direct equity finance in the stock market. The banks thus were corporate stakeholders due to their lending, their equity holdings, and the voting rights they exercised on behalf of bank

customers who kept their shares deposited with the banks.<sup>38</sup> This enabled the banks to obtain seats on the supervisory boards of major companies.

At the same time, fund raising via the stock market or capital markets in general was increasingly restricted. During the 1930s, the position of banks was strengthened and the concentration of the German economy further increased via laws to reduce dividends and increased interlocking shareholdings that allowed managers to operate large-scale businesses according to their objectives.<sup>39</sup> German economists had recognized that the managerial objectives were more in line with the overall economic objective of maximizing economic growth. One law that did much to raise the power of the supervisory bankers over industry was the AG-Law of October 1, 1937, in which paragraph 103 took the right from shareholders to decide dividends and transferred it to the supervisory board. A rule was introduced to limit dividend payments to 6 percent or 8 percent, as anything beyond had to be invested by the shareholders in a government fund. As a result, there were fewer avenues for companies to escape from the resource transfer and sectoral transformation effected by the direction of credit. By the late 1930s and early 1940s, industry control associations (*Wirtschaftsgruppen, Fachgruppen*) served as the conduits for the top-down "guidance" of the "guided economy" (*gelenkte Wirtschaft*). Thus the direction of credit was at the center of an overall consistent institutional design that relied on bank-based corporate finance and included other areas, such as the labor market.

Meanwhile, the Reichsbank maintained a near-monopoly on the regular sectoral credit data that the banks had to submit in frequent intervals: Gaedicke (1939), a contemporary economist, criticized that, despite the new banking law requiring banks to disclose the details of their borrowers, and despite the occasional publication of annual statistics, the central bank or the bank regulatory authority did not disclose the detailed regular information they obtained from the banks, thus preventing evaluation by non-privileged economists. The banking law of 1934–35 remained in place



with few changes after 1945 and, according to James (1998), "contributed to give shape and direction to post-war German development" (p. 65), which was characterized by relatively high economic growth.<sup>40</sup>

### *German Theory*

What was Hjalmar Schacht's rationale for the introduction of credit guidance, and the related institutional features, such as the central role played by banks? Since short-term interest rates were not closely related to economic activity and the reserve requirements were too blunt a tool to be used strictly, one rationale was to act as a tool for monetary policy implementation. However, this explanation does not apply to the selective direction of credit.

Dr. Schacht was a trained economist and student of Gustav Schmoller at Berlin University and, by Schacht's own assessment, Schmoller was "one of the men who had a significant influence on me then."<sup>41</sup> Schmoller was a leading figure of the German Historical School, which had been critical of classical economics and had developed an alternative, growth-oriented economics. Schacht wrote his Ph.D. thesis about (British) mercantilism and favored views similar to List (Schacht 1900).

### *Institutional Design*

Members of the German Historical School tended to look favorably on active government intervention in many areas of society and the economy with the aim of enhancing growth and/or social welfare.<sup>42</sup> In the latter part of the nineteenth century, Germany was engaged in economic competition with the leading power of the day, Great Britain. German economists were preoccupied with the goal to maximize economic growth, thus enabling Germany to catch up with and ultimately overtake Britain. While British economists built their theories from the vantage point of an established economic power, thus focusing on efficiency aspects within static theories, the German economists were most of all interested in the dynamics of economic development.<sup>43</sup>

It was understood that incentives of agents needed to be shaped in order to coincide with the overall goal of maximum economic growth. As Stolper (1966) recognized, the creative and visionary ideas of Walter Rathenau provided the basic framework for a system of state "guidance" of market economies to maximize growth. German economists had already recognized the importance of increasing returns to scale (at a time when most English-speaking economies was fixated on constant returns to scale models), and hence argued for a greater use of large-scale industry to enhance overall economic growth.<sup>44</sup> Rathenau recognized the depersonalization of ownership of large firms, its separation from control, and its economic implications. Enterprises were developing into bureaucracies resembling the state or a whole community in character (1917b). Rathenau argued that empowering managers and reducing the power of shareholders would enhance economic growth, while their actions could be coordinated top-down for national interests.<sup>45</sup> However, few German development economists proposed the abolition of private property or nationalization, as demanded by communism or socialism. Most considered indirect state control and "guidance" of the market economy preferable to nationalization. They were aware that private incentives had to be utilized for the collective effort. Indeed, it was thought that mere economic "guidance" by bureaucrats amounted to a more effective "nationalization of economic life, not by expropriation but by legislation" (Spengler 1920). To increase motivation and maximize human resources, an economic system was envisaged that, based on pay structures and a large-scale education program, would result in an egalitarian distribution of national income and wealth, and would hence be perceived as just and fair by its members. The latter perception was seen as important to encourage cooperation and minimize welfare losses due to coordination failures (Rathenau, 1919a, 1919b, 1919c). This system was considered a "third way" between private capitalism and a command economy.

Rathenau's wartime associate von Moellendorff (1916) emphasized the parallels between the war economy and the medieval corporate system of trade and craft guilds, which had brought



Germany prosperity in the past. The private market economy could be "guided" top-down through the organization of each industry in business associations that operated like cartels. This system became a key tool to guide the overall economy. Cartels had already become important before World War I, but their role increased once their potential as a tool for economic "guidance," and as facilitators of cooperative equilibriums was recognized. Moreover, the views about guilds and industry associations were in line with earlier thinking by German development economists, and thus were quickly assimilated by others over the following two decades, such as Spann (1921) and Sombart (1934). This would reduce the administrative burden, as the associations would impose self-control in the various sectors largely according to the wishes of the bureaucrats.

#### *Directed Credit*

These German economists recognized early on the significance of money in economic development.<sup>46</sup> Based on empirical observation they realized that then (as indeed now) the majority of external corporate finance takes the form of bank lending.<sup>47</sup> They also recognized that the lender has certain powers over the borrower.<sup>48</sup> Moreover, they recognized the power and implications of banks as creators of credit. This power, they argued, could be utilized for the greater good, thus maximizing social welfare. Government direction of bank credit, with the aim of enhancing economic growth and social welfare, thus was commonly seen as the most important form of "guidance" in the pursuit of economic growth and the development of an equitable society. It can be traced to Fichte (1800) and Mueller (1816). In the years preceding World War I, many economists argued that top-down guidance of economic activity by a financial general staff and economic general staff should work hand-in-hand with the military general staff toward mobilizing resources efficiently (Riesser 1906, 1913). The direction of credit encouraged a bank-centered economic system (and an overall institutional design consistent with it) because the "directing" took place via the central bank and the banking sys-

tem. One of the first to point out directly the theoretical implications and importance of Reichsbank credit control policies was Johann Plenge (1913). National mobilization during World War I, when credit was directed via the Reichsbank, as well as the public *Reichskassen* and *Kriegsdarlehnskassen*, provided a further impetus to the concept of directed credit and the overall institutional design consistent with it (see Prion 1917, Stolper 1966).

During Schacht's tenure as central bank head, he made frequent references to a specific economic theory, so that a coherent theoretical concept of Reichsbank policy can be identified. The literature agrees that this concept was the German version of the real bills doctrine (or the banking school view), as elaborated by economists such as Adolf Weber (see, for instance, James 1998).<sup>49</sup> This theory focused on a disaggregation of credit data and argued that new bank lending (credit creation) extended to productive sectors of the economy would not lead to inflation, as the amount of goods and services would be increased thanks to the extension of credit. However, the extension of credit to unproductive sectors, i.e., activities that did not increase the amount of goods and services, such as speculative investments or consumption, would produce inflation.

Since writers argued consistently that credit should be directed toward productive purposes, this intervention was simply referred to as *Kreditpolitik*. By the 1920s, such "credit policy" had become an established component of the policy debate. It was recognized that *Kreditkontingentierung* (credit rationing) by the Reichsbank allowed lower interest rates than would otherwise be possible (Prion 1926). Any such quantity rationing is by necessity combined with a qualitative allocation policy. Thus the Reichsbank credit restriction policies were recognized to "open up new avenues" of influencing the economy. "It is contemplated whether one can exert dominant influence on the course of economic developments by introducing a tightly organized allocation policy on the short-term credit market by using the central bank" (Bosch 1927, p. 10).<sup>50</sup>

The German monetary and development economists favored the direction of credit within an institutional environment consistent with the overall goal of maximizing economic growth. Since (1) it was organizationally far more complex to direct the flows of funds

in the capital markets, and (2) unlike banks, capital markets do not create new money, the theories that proposed directed credit mostly had a negative view about the use of the capital markets and favored the direction of credit via the central bank and the banking system. This implied a preference for a bank-centered economic system and an overall institutional design consistent with it. To achieve the goal of maximum growth, therefore, it was concluded that the institutional setting should be redesigned in favor of a bank-centered system.

### *Industrial Policy*

Schwenk (1937) provides a useful synthesis of German views on directed credit and its interdependence with a suitable institutional design. As a monetary policy tool, quantitative controls were justified in an economy characterized by less than perfect competition, since in this case traditional discount policy would not be effective: The high fixed costs of investments meant that short-term fluctuations of the interest rate would not influence investments significantly. Traditional open-market policies would also reveal little about the use which funds were put to.

Schwenk argued that the information provided by credit data should be used by the government to assess the condition of the economy. Thus banks should be required to report constantly to the central bank about the use of credit. Although credit coordination may be criticized for being arbitrary, decisions by banks in an environment without credit controls may be similarly arbitrary. However, thanks to credit controls, the authorities can at least ensure that money is put to productive use and to make investments that are publicly desired, while undesirable projects can be prevented. Internal finance and equity finance, by contrast, do not immediately allow the central bank or the authorities to monitor and control the use funds. Thus harsher investment controls would have to be imposed, which would require high administrative and efficiency burdens. In the case of bank credit, however, the entire banking sector and its expertise is utilized to allocate purchasing power according to priority guidelines set by the authorities. Since

technological developments had increased the industries with high fixed costs, the trend toward the creation of and reliance on cartels and concentration of industry meant that only a few large conglomerates had to be dealt with. This eased the burden on the bureaucracy to impose control organs. Bank credit thus was seen to provide a more efficient organizational design for credit coordination.

Schwenk anticipated later theories about agency costs, when he argued that bank lending provided superior incentives to firms to operate efficiently. Schwenk theorized that since the firms have to pay a constant interest rate and pay back the principal itself, it is psychologically stricter, delivering greater incentives to cut costs and rationalize production processes. Moreover, banks monitor the activities of firms and, due to their seats on the company supervisory board can directly influence important decisions, such as the dividend payments. Some of these arguments have only slowly been rediscovered by neo-classical economists in the past two decades.<sup>51</sup>

Schwenk also supported restricting competition between firms, since unlimited competition is not efficient from a macro-economic viewpoint. In Schwenk's view, while each individual firm attempts to out-compete the others by increasing capacity and undercutting the competitors, the industry on the whole looses, as overcapacity will be the inevitable result. This led to the call for a full-blown industrial policy: Research institutes needed to be established within each industrial sector to conduct research on the market, the technologies, and the potential for growth. The results from these institutes would then indicate to the bureaucracy if the industrial structure or production processes needed to be changed. Credit could then be directed accordingly, avoiding the "misguidance of capital."

According to Schwenk, industrial policy and credit allocation had to go hand in hand. Guidance of the economy was necessary, because otherwise humans will not be master of the economy. "Should man, who unleashes the economic forces, remain their slave or should he learn to control them? Alone from this viewpoint the question of control of the economy has to be decided, and if we choose the right answer, we will simultaneously solve the problem of business cycles" (p. 106).

Other writers provided further elaboration of the theory of di-

rected credit and its central role in a "guided" economy (Timm 1941). The latter was a combination of market mechanisms and individual initiatives with indirect state intervention aimed at enhancing overall social welfare. Government intervention thus had to take the form of changing incentive structures via profitability, in order to produce "those reactions from individuals that are in line with that change of economic processes that are intended by the government. The freedom of individuals to make decisions and their desire for maximum equality are recognized. Government interventions count on them and are aimed at them through their type and their focus" (Timm 1941, p. 234).<sup>52</sup> "Thus monetary policy is the backbone of indirect guidance (*mittelbare Lenkung*). It provides the leverage for all further transactions and activities and is of primary importance" (p. 240).

In summary, the overarching goal to maximize economic growth dictated the design of an institutional framework, within which shareholders were weakened, managers strengthened, and resources allocated via top-down guidance of bank credit. In the process, a bank-centered economic structure emerged as a by-product. The center of this institutional design was directed credit.

### *Influence on Japan*

#### *Schacht and Ichimada*

Economists and government bureaucrats in Japan followed theories and events in Germany closely. The influence of the German Historical School on economists and bureaucrats in Japan in the Meiji and Taisho periods is well documented in the seminal paper by Pyle (1974), and was noted by many others.<sup>53</sup> Schacht's policies promoted rationalization and corporate restructuring, a topic that was of rising interest to Japanese economists and bureaucrats. According to Johnson (1982), "in 1930, by far the greatest influence on the Japanese theory of rationalization came from the Germans" (p. 105f). Future postwar Prime Minister Nobusuke Kishi, for instance, visited Germany in 1926, and again in 1930, to report on the rationalization movement there.<sup>54</sup>

Japanese economists and practitioners were also interested in the Reichsbank's policy of directed credit and the organization of corporate finance and corporate governance that it entailed. Officials were regularly dispatched to Berlin, where they were based in the Japanese Embassy, not far from the Reichsbank. The Japanese visitors quickly realized the potential offered by policies of directed credit.

In January 1923, a young Japanese central banker was appointed to the London Representative Office of the BOJ with his duty station in Germany. The thirty-year-old Hisato Ichimada was to stay until June 1926. The purpose of his stay in Berlin was to study the Reichsbank's monetary policy and its implementation, and to send reports back to the BOJ's head office.<sup>55</sup> The period of his stay coincided with Schacht's ascendancy to the "credit dictatorship." Ichimada was in many ways deeply impressed by the experience. "What left the strongest impression on me in Germany was central bank President Schacht," he informs us in his memoirs (Ichimada, 1986, p. 38).

Despite his young age, Ichimada personally became acquainted with the great credit dictator. According to Ichimada, he visited Schacht in his office several times and each time was greeted "with open arms" and engaged in "a frank exchange of opinions on the state of the German economy" (p. 38). Hints in Ichimada's speeches—let alone his later policies—are suggestive that he regarded Schacht and his highly independent Reichsbank as a role model for the BOJ.<sup>56</sup> The fact that Schacht and his views on monetary policy made a lasting impression on Ichimada is given further credence by the recent appreciation of Schacht's influence even on leading contemporary economists in the Western hemisphere, not least of all J. M. Keynes.<sup>57</sup>

It appears that Ichimada's relationship with Schacht was not merely of a superficial nature and the two seemed to get along well: Shortly after the end of the war, when Ichimada had become BOJ governor, Schacht visited his Japanese acquaintance in Tokyo (although Schacht could not stay long, as Ichimada lamented, since he was about to be investigated by the Nuremberg war crimes tribunal in Germany).<sup>58</sup>

After Ichimada's return to Japan he was transferred to the key Banking Department, which is the section of the central bank that would later implement the direction and control of bank credit. He was at the Banking Department for an unusually long time, a total of ten years (from 1927 to 1937). However, the relationship of the BOJ to the banks was at the time still markedly different from what he had seen at Schacht's Reichsbank. "In the period before World War II, and particularly before 1932, the Bank of Japan did not have a close relationship with the commercial banks and the money market except in times of crisis, when it acted as lender of last resort" (Patrick 1962, p. 33f).

Meanwhile, the political leadership increasingly moved the Japanese economy onto a war footing. With the beginning of open hostilities in China in 1937, various emergency measures and laws were passed, including a law that provided the legal framework for the type of credit control and allocation that Schacht had engaged in—the 1937 Temporary Funds Adjustment Law. This law required financial institutions and underwriters to apply for permission from the Ministry of Finance to extend long-term loans or underwriting large lots of securities. Moreover, since 1937 the Bank of Japan greatly expanded its discounting of bills from banks, thus getting more closely involved in their credit extension and allocation activities.<sup>59</sup> However, the central bank's control over the allocation of bank credit was not yet comparable to Schacht's direction of credit. Since the legal and administrative framework was indeed found to be insufficiently tight for the purpose of war mobilization, further laws, such as the 1940 Bank Funds Utilization Order (*Ginkou nado shikin Unyou Rei*) were passed (Calder 1993, p. 36). Meanwhile, dividends were restricted, rendering the stock market less attractive.

### *Creation of a Bank-Centered Economy*

In 1942, a more radical re-organization of the financial sector was implemented, which placed the direction of credit at the heart of Japan's effort to maximize economic growth. The center of the New Financial System was the National Financial Control Association.

An organization analogous to the newly formed "control associations" in various industries, it organized the various banks by type in so-called financial control associations. The umbrella National Financial Control Association was operated by the BOJ and formally headed by its governor. Its job was to do whatever it took to provide the priority industries with funds through a top-down process of fund allocation via the banks to industry. Funding through the stock market was reduced to a trickle and the banking system was relied upon for resource allocation, laying the foundation for the post-war bank-based financial system. To simplify the credit guidance regime, the number of banks was drastically reduced, from about one thousand four hundred by the end of the 1920s, to merely sixty-four by the end of World War II.

As part of this New Financial System, the BOJ Law was changed in 1942, with a new law ending the hitherto remaining vestiges of independence. The law was closely modeled on the 1939 Reichsbank Law, which had put the central bank firmly under government control and oriented its policies toward serving the "national mobilization goals" (Article 1). While the central bank became subordinated to the government, it also gained significant powers over the banking system and the economy in general.

Coinciding with the introduction of the National Financial Control Association and the promulgation of the new BOJ Law in 1942, the Japanese central bank also started to publish a detailed sectoral breakdown of the allocation of bank credit.<sup>60</sup> The year 1942 must therefore be considered the beginning of the full-blown, detailed quantitative and qualitative credit guidance policy in Japan, which continued until at least 1991.<sup>61</sup>

The year 1942 also happened to be the year when Ichimada's influence became highly visible, as he emerged in the key position of secretary-general of the National Financial Control Association.<sup>62</sup> While the formally higher-ranking posts of chairman and vice-chairman of the Association were held by the BOJ governor and vice-governor, Hisato Ichimada "as secretary-general of the association, was in effect responsible for supervision and guidance of its daily affairs."<sup>63</sup> His work included arranging loan syndications, bank mergers, injections of BOJ funds and, most of all,

the direction of credit—called *Yuushi Assen* (Loan Coordination) at the time. Just before the end of the war, Ichimada became head of the newly created and short-lived Control Department, which directed credit to large companies.<sup>64</sup> It is obvious, therefore, that at least from 1942 onward, Ichimada had been in a position to directly implement the knowledge of Schacht's credit controls and institutional design he had gained in Germany.

### *Productive Use of Credit*

The principle used at the Banking Department of the BOJ was the same as that employed by Schacht at the Reichsbank and postulated by numerous German economists; namely that increased credit extension for "productive uses" was acceptable.<sup>65</sup> Of course, until 1945, the definition of "productive" was dominated by the war effort. The BOJ, as the control center of the direction of credit, implemented the resource allocation plans worked out by the Cabinet Planning Board. The plans had been constructed on a top-down basis: First, the needed output was decided. Then a hierarchy of manufacturers, subcontractors, and raw material importers was determined. The banks were then required to ensure that purchasing power was made available for all the firms involved to be able to acquire the inputs into their production process. Finally, the central bank ensured that the banks would have sufficient resources, and would direct credit appropriately.<sup>66</sup> Basis for the direction of credit were detailed statistics that the banks were required to report.

Thanks to bank credit controls, resources could be allocated to industries of strategic importance—during the war it was the munitions industry. Based on plans for the overall output needs, borrowers were classified into three categories: (A) for critical war supplies, such as munitions and raw material companies; (B) for medium-priority borrowers; and (C) for low-priority borrowers that manufactured domestic consumption goods and items considered luxuries. The allocation of loans to the B-sectors was restricted and to sectors classified with a C almost impossible.<sup>67</sup> The manufacturers involved in the A category would be assigned a "main

bank," whose job was to ensure that enough loans were given to the firm in order to meet its production targets. The firms were themselves part of a hierarchy of subcontractors and related firms, which were grouped so as to ensure fast and efficient production of allotted output targets.

This system quickly reshaped the economy. It ensured that only priority manufacturers received newly created purchasing power. Low-priority firms and industries were weakened, while the strategic firms and sectors grew rapidly. Manufacturers of luxury items, if not yet transformed to war production, simply could not raise any external funds.<sup>68</sup> Purchasing power was not used for unnecessary sectors or unproductive purposes. Loans were allocated to maximize the desired type of output—munitions at the time.

### *Post-War Continuity*

In 1946, with the approval of the U.S. occupation, Ichimada became governor of the BOJ. The system of directed credit worked so efficiently that it was carried over into the post-war era in its entirety. Almost all the present links between companies in the various business groups, their subcontractors, and their main banks originated in the wartime system of directed credit.<sup>69</sup> Like in other industries, the National Financial Control Association also stayed in place in the post-war era—under the new label of the Japan Bankers' Association.

As bank lending started to increase under his tutelage, Ichimada re-instated the wartime bank credit guidance mechanism, which determined both the quantity of new bank loans, and their sectoral allocation.<sup>70</sup> All that needed to be done was to switch the priority classification from war objectives to peacetime goals. Instead of munitions industries, first textile, then shipbuilding, steel, and later, automobiles and electronics became priority category A beneficiaries of allocated purchasing power. Medium-priority category B included most manufacturing not in A, as well as retail trade, agriculture, education, and, on a case-by-case basis, construction. Domestic consumption-related industries fell into the low priority category C—sectors such as real estate, department stores, hotels,

restaurants, securities, entertainment, publishing, and alcoholic beverages. They were without much hope of obtaining funds (Calder 1993, 83ff). Ichimada felt that Japan could ill afford such luxuries.

Similarly to "credit dictator" Schacht, Ichimada earned the reputation of deciding over life and death of companies (for which he came to be referred to as "the Pope"). The system worked well in avoiding unproductive use of credit and channeling funds to productive activities. As is recognized by the literature, Japan's rapid post-war economic growth rates were driven by the extension of credit. The main limitation was the threat of balance of payments deficits due to expanded domestic demand. As soon as this became a possibility, the quantitative aspect of the credit controls came to bear and total credit growth was slowed.

#### *Direct Reference to Reichsbank Precedent*

Further evidence for a direct link between the Bank of Japan's direction of credit and the Reichsbank's practices is provided by Toshihiko Yoshino, a trusted aide of Ichimada and researcher at the Bank of Japan. In his book of 1954 (and new edition of 1962), Yoshino discusses "the regulation of financing," a policy he explains was first implemented first by the Reichsbank in April 1924. This regulation (*kisei*) consisted of both quantitative and qualitative credit controls: "the Reichsbank, the German central bank, took the measure of stopping the lending by commercial banks in principle and simultaneously strictly monitored the content of new bank lending by only securing the funding that was necessary for the reconstruction and recovery of the German economy. This measure was highly effective in reducing inflation" (p. 192). Yoshino then explains that the same "regulation of financing" was implemented in Japan, first in March 1946. Just like in Germany, "in principle" banks were not allowed to increase their outstanding loan balance beyond the balance of March 20, 1946, without the permit from the BOJ's Director of the Banking Department. With the Emergency Measures Law of March 1947, the credit controls were comprehensively implemented (Yoshino, 1962).<sup>71</sup>

#### *No Involvement of the Ministry of Finance*

It remains to be added that the literature and empirical evidence are unanimous in their view that the window guidance direction of credit remained free from influence by the Ministry of Finance and was determined wholly by the BOJ.<sup>72</sup> From about 1937 to 1942, the Ministry of Finance's Finance Bureau and its secretariat influenced credit allocation—relying on bureaucrats who had originally mainly come from the foreign exchange section, established in 1933.<sup>73</sup> However, the Ministry's direct interference receded after 1942, when it delegated the direction of credit to the BOJ, which in turn had to report to the Ministry. Especially since the 1950s, the Ministry became increasingly removed from the credit direction decisions. Researchers thus concluded in the 1960s that window guidance "is rather free of Ministry of Finance interference because the process of establishing ceilings poses a number of technical problems and because the details of the operations are kept quite secret" (Patrick, 1962, p. 143).

#### *The Rationale of Directed Credit and Bank-Centered Finance*

Comparing the BOJ's postwar practice of directing credit with the Reichsbank's, we find that both procedures were practically identical. Banks would be summoned on a quarterly basis by the central bank and quarterly loan increase quotas were allocated to them. The credit controls consisted of both quantitative and qualitative elements. Banks had to provide information on their loans divided up by size of company, industrial sector, and use of funds (whether for short-term or long-term investment purposes). Large-scale borrowers had to be identified by name. The statistical coverage of commercial bank was consequently also very similar. In both countries, the central banks screened for productive (i.e., investment) use of credits and discouraged bank loans for unproductive use (i.e., speculative and consumptive credit). In both cases, the latter was interpreted as including loans for financial speculation and consumption (luxury use).



Even the terminology used by both central banks was identical. The Reichsbank referred to the loan increase quotas as *Kreditrahmen* (literally, credit frame),<sup>74</sup> and the BOJ until the 1990s referred to its loan increase quotas as *kashidashi waku*, which translates as "loan frame" into English or *Kreditrahmen* into German. The German principle of *Kreditlenkung* (credit guidance) is identical to the Japanese terminology of "guidance" (*shidou*).<sup>75</sup> Furthermore, leaders of both central banks used tight credit policies to pursue the goal of corporate restructuring. The Bank of Japan's goal of pursuing corporate restructuring has been as equally far removed from standard monetary policy objectives as Hjalmar Schacht's agenda of corporate rationalization in the 1920s.<sup>76</sup> Finally, we have identified direct personal links between the undisputed key actors in both Germany and Japan, Hjalmar Schacht and Hisato Ichimada, as well as direct reference to Reichsbank precedent in the context of Japanese practice. The conclusion that Japanese policies of directed credit originate in German theory and practice seems beyond doubt.

In summary, we find that rational authorities that had decided to direct credit to preferred industries in the pursuit of growth maximization can be expected to use the banking sector for these purposes, while suppressing alternative funding routes via the stock market.<sup>77</sup> Directing funds via banks is faster, less costly, and poses fewer coordination problems than via capital markets. Directed credit also provides the possibility of additional subsidies for preferred industries through the maintenance of low interest rates. Bank credit also offered a convenient way to raise savings, in the form of safe bank deposits, while stocks and corporate bonds carry larger costs and principal risk with them, thus are less suited as the main savings instrument.<sup>78</sup> An expansion in bank finance as opposed to capital markets also changes the corporate governance structure in favor of management and to the detriment of shareholder influence. Together with other measures, this allowed the authorities to skew the orientation of firms away from short-term dividend maximization toward long-term scale maximization, thus enhancing macro-economic growth.

If maximizing macro-economic growth was the overall goal of

decision-makers, and a decision had been made to pursue this goal by directing credit to productive uses, then a financial structure centered on banks would have been preferable, thereby requiring a reorganization of the financial sector and economy at large in order to bring about a bank-based financial system.<sup>79</sup> Theories to this effect existed and were known to the decision-makers at the time. Directed credit was an integral part of an institutional design pioneered in Germany. Just like the theory and practice of directed credit, the broader German theories of institutional design to support a "guided economy" with credit allocation at its heart had an important influence on thinkers and decision-makers in Japan.

#### Part IV: Conclusion

We have identified the rationale for the application of policies to direct credit and to reorganize the institutional framework of corporate finance in Japan. Bank-based financial structures came about due to the greater convenience in using them for the implementation of sectoral credit guidance policies in an overall system of a "guided" (*gelenkte*) economy, aimed at rapid development.

We have also traced this rationale to a specific body of theories, namely pre-1945 German monetary and development economics. These provided both theory and practical blueprint for the reorganization of the Japanese economic structure, to orient it toward growth maximization. Based on this German model, the *ex ante* prediction of the Japanese reformers who applied it to Japan was an increase in economic growth performance, while maintaining low-income inequality. As is well documented, this is what came to pass. However, not only in Japan: Many other East Asian economies adopted virtually identical policies to direct credit (as well as implemented bank-centered financial systems), especially in Taiwan and Korea (where the foundations were still laid under Japanese occupation).<sup>80</sup>

The success of the East Asian economies, of "record growth and strong trade performance is unprecedented, a remarkable historical achievement" (Stanley Fischer, 1998). However, this success had posed a profound difficulty for most accepted economic



theories. The fundamental theorem of welfare economics identifies the particular set of assumptions under which the competitive economy is Pareto efficient, and these assumptions define an economy where interventions, such as by the government, cannot but reduce efficiency. However, the economic structures of the Asian "miracle economies" did not resemble this model and the recorded performance is in contradiction with *ex ante* expectations of classical and neoclassical theory.

When choosing between a theory that *ex ante* expected and predicted the Asian success (and which is known to have motivated the decision-makers at the time), and a theory that predicted the opposite (while also being known to have had been rejected by decision-makers), not only Friedman's criterion, but also logic suggests that the former is preferable.

We have therefore identified important evidence in favor of the effectiveness of credit direction policies. Moreover, our research into the historical rationale of credit allocation policies provided an alternative explanation for the emergence of bank-centered economic structures to the accepted, though empirically not supported, "monitoring" theories.

### *German Development Economics and Contemporary Economics*

The advice proposed by the German Historical School appears advanced in the light of modern developments in endogenous growth theory, imperfect information monetary economics, and principal-agent theories of incentive structures. Moreover, even the distinction between productive and unproductive credit creation, long dismissed as fallacious like the real bills doctrine, has received new theoretical and empirical support (Werner 1997, 2002b, 2003a).

How German economics, long dismissed as backward, could come up with advanced policy recommendations that stood up to the test of time is an important question beyond the scope of this paper. However, it is likely connected with the differing methodology applied by German development economists. While economics in the English-speaking literature followed the axiomatic

deductivist approach, the Germans had consistently argued for inductivism and empiricism. This had the drawback of producing theories that, to classical economists at least, often did not appear rigorous enough to be taken seriously as theory.<sup>81</sup> It had the advantage over classical theories, however, of not being restricted by assumptions that were not only unrealistic, but also produced results dependent on them. German development economists recognized that in a world with increasing returns to scale, asymmetric information and market failure, there was no guarantee that free markets, left on their own devices, would produce socially optimal results. Thus there was a case for limited government intervention, especially in the credit markets. This took the form of the direction of credit to productive sectors and consequently the creation of bank-centered, "guided" economies.

By focusing on mutually beneficial cooperation and coordination in the form of "guidance" within a market-based environment, the German development economists proposed what today would be called devices for internalizing externalities, minimizing information costs, and motivating individuals. Concerning the latter, it can be said in modern terminology that they recognized that "utility functions" are interdependent, and agents compete in hierarchical fashion and have a common desire for justice and fairness of organizational arrangements.<sup>82</sup> Government intervention did not take the form of micro-management, but the shaping of incentive structures. Even the "guidance" of bank credit generally focused on barring speculative (asset-collateralizing) and consumptive loans while encouraging loans to manufacturing and services industries. Competition was a constituent part of this system, since firms in the favored sectors still had to compete against one another to obtain the funding from the banks.

In other words, a main and lasting contribution of the work of German economists is the formulation of an argument to justify intervention in the credit market with the specific aim of allocating credit to targeted or high value-added sectors of the economy. Their research and policy program remains under-appreciated for its insights, especially given that it has found new support in the recent literature on market failure.

## Notes

1. For a survey on the literature linking financial development and economic growth, see Levine (1997).
2. For a useful summary, see World Bank (1997).
3. Greenwald and Stiglitz (1986) showed that agency costs generate Pareto-inefficient equilibria. The literature on the "credit channel of monetary transmission" also establishes a theoretical, as well as empirical case for a government role in financial markets, based on the special position of small and medium-sized enterprises, for whom the various funding options are not perfectly substitutable. See Gertler and Gilchrist (1993, 1994) for a summary of arguments. Moreover, recent credit models have emphasized the importance of the quantity of credit and its sectoral allocation for macroeconomic performance (Werner, 1997, 2002b).
4. For instance, the Asian Development Bank's Guidelines for the Financial Governance and Management of Investment Projects financed by the Asian Development Bank (2002) insist in section 6.2.4.1 that its loan programs "aim to remove or substantially reduce the use of directed credits, that are similar to interest rate subsidies, as these lead to resource allocation outside market mechanisms" (p. 21).
5. The only relevant test of the validity of a hypothesis is comparison of its predictions with experience. The hypothesis is rejected if its predictions are contradicted . . . ; it is accepted if its predictions are not contradicted; great confidence is attached to it if it has survived many opportunities for contradictions" (Friedman 1953, as quoted by Hay 1989, p. 113).
6. It is also more stringent in the sense of considering *mutatis mutandis* change, thus not permitting the claim of a violated *ceteris paribus* assumption to justify the inability of policies to deliver.
7. Stiglitz (1985) argues that traditional control mechanisms over companies (such as shareholder meetings) do not ensure that managers of large corporations manage resources efficiently. Instead, control is exercised by banks to ensure efficient resource allocation.
8. For instance, Okazaki and Okino-Fujiwara argue that the credit control system of the National Financial Control Association was introduced in order to monitor the banks and companies—delegated monitoring. "The system introduced to resolve this problem was the delegated monitoring or main bank system, which was designed to lower the risks attached to lending through the systematic delegation of monitoring. A National Finance Control Association (Zenkoku kinyū tōseikai) was set up in 1942, which began facilitation of joint financing" (p. 28).
9. Agarwal and Elston (2001), Fohlin (1999), Caves and Uekusa (1976) found that in the Japanese case mainly group banks benefit from the *keiretsu* business groupings, not the individual firms. They tend to have a lower profit rate than nongroup firms.
10. For studies of FILP and the role of the government banks, see, for instance, Calder (1990), Calder (1993), Horiuchi and Sui (1993), Yoshino (1993)

and Cargill and Yoshino (2000); for a detailed study of the role of the Ministry of Finance and FILP, see Wright (2002). For a comparison of the Japanese FILP with the equivalent German government program, see Robaschik and Yoshino (2000).

11. The overall importance of lending from government banks is admittedly most likely larger than the direct volume of government loans. However, the so-called cowbell effect of signaling to commercial banks the public approval of companies or projects has not been empirically estimated. Moreover, it must by definition be smaller than the overall impact of central bank direction of commercial credit on total bank loans and hence can only constitute a supplementary tool of the more comprehensive form of directed credit examined in this paper. Finally, the government banks do not create credit, an issue that is examined in a separate study.

12. Even the precise form, nature, and role of such central bank-directed credit remains under-researched. Calder (1993) laments that "there has been little detailed empirical consideration of actual Bank of Japan involvement in qualitative credit allocation" (p. 77). Recent work has begun to change that (see Werner, 2002a, 2003a, 2003b).

13. On credit controls in general, see Goodhart (1989). On Taiwan, see Shen (1994). On Japan, see Werner (2002a).

14. The credit controls are relatively little known, because there has always been a political incentive to downplay their importance. Researchers who examined the controls were deflected by the central bank with the argument that window guidance was just a loan ceiling, without any qualitative allocation of loans across industrial sectors. Sometimes, their very existence is denied by the central bank. Werner (2002a) has provided evidence to the contrary. On details of Japanese window guidance, see Patrick (1962), Kure, (1973, 1975), Horiuchi (1980) for the pre-1980s era, and Werner (2002a) for the 1980s and early 1990s.

15. This is why the Bank of Japan until this day maintains (and publishes) detailed loan statistics, broken down into these categories. Although the Bank of Japan claims that "[window guidance] is employed to regulate the total amount of commercial bank credit and is not a tool for the qualitative control of lending," L.S. Pressnell (1973, p. 159) (a claim repeated by Calder, 1993), empirical research such as mentioned above has disproven this claim.

16. Until about the early 1970s, MITI was involved in the decision-making process of the sectoral direction of credit. See Horiuchi (1993). The involvement of the Ministry of Finance was minimal at best and by the 1960s is known to have ceased entirely. See Patrick (1962) and Werner (2002a).

17. Moreover, in the post-war era large city banks were borrowing heavily from the central bank. This rendered them even more dependent on the Bank of Japan, which used the allocation of its direct lending in support of its policy.

18. Patrick (1962) argues that the window guidance system originates in 1954. Calder put its inauguration in 1950.

19. For literature on Ichimada and his role, please refer to Ichimada (1986), Abe (1955), and Werner (2001, 2003).

20. Nihon keizai shimbun (1984).

21. It was a more sophisticated version of this system that was successively re-introduced in peacetime during the 1930s; see below.

22. On pressure from the victorious allies of World War I, the Reichsbank Law was changed in 1922 and the central bank made independent from and unaccountable to any German institution, including the democratically elected government and parliament. It was changed again in 1924, leaving the central bank independent from the government—but dependent and accountable to outside interests, namely the foreign bankers representing the ultimate creditors of the reparations debt. The Reichsbank's independence remained unprecedented until the Maastricht Treaty of 1991, which established the statutes of the European Central Bank.

23. James's (1998) assertion that the credit controls were primarily aimed at controlling money supply growth is not supported by evidence, and even contradicted later in his own article.

24. D'Abernon, Diary entry, January 23, 1926, *Memoiren*, vol. 3, p. 257, as quoted by Mueller (1973, p. 60).

25. Schacht's view that stock prices were driven up by excessive credit has recently been disputed by Voth (2002).

26. See the Notification of the Reichsbank Direktorium to all Reichsbank offices, September 13, 1924, p. 1, p. 3, Bundesbank-Archiv.

27. An internal memorandum accompanying a freeze of the credit quotas gave these instructions: "Bei allen Kreditgeschäften ist ganz besonders darauf zu achten, dass die Kreditgewährung der Reichsbank nicht dazu benutzt wird, um Devisenkäufe zu finanzieren, die nicht wirtschaftlich begründet sind." "An sämtliche Reichsbankanstalten," internal memorandum, Reichsbank, June 21, 1931 (Bundesarchiv Kohlenz und Berlin R28/49). This is another example quoted by James (1998, p. 61) that contradicts his earlier assertion that credit controls were mainly of quantitative nature.

28. Notification by the Reichsbank Direktorium to all Reichsbank branches, December 29, 1924, Bundesbank-Archiv.

29. Such as when he summoned the representative of the Berlin Banks' Association (*Stempelvereinigung*) and asked him to tell the executives of the other banks to reduce margin loans. This evidence of qualitative credit controls is mentioned by James (1998, p. 58). It is at variance with his earlier assertion that credit controls were primarily aimed at controlling money supply growth. The latter position can only be maintained by semantic arguments about the definition of the adverb "primarily."

30. Memorandum, 1924, Notifications to Branch offices, Reichsbank, (Bundesbank-Archiv).

31. Given the central bank's qualitative direction of credit, commentators noted that "many injustices and disagreements about the details are unavoidable" (Dalberg 1926, p. 72). Many observers argued that in a democracy such vital decisions should only be made by parliament and the elected government.

32. The outcry remained muffled, since the reparations issue continued to put pressure on the German government and left little room to argue with a Reichsbank that was only accountable to the Reparations Commission. Unlike the Reichsbank, the Bank of Japan largely kept its "credit guidance" policies secret or downplayed

their role. Such claims have been disproven. See Kure (1973, 1975) and Werner (2002a).

33. Schacht, *Deutsche Währungspolitik*, 15 May 1924, p. 26, as quoted by Mueller (1973).

34. Ausschuss zur Untersuchung der Erzeugungs- und Absatzbedingungen der deutschen Wirtschaft: *Der Bankkredit—Verhandlungen und Berichte des Unterausschusses für Geld-, Kredit- und Finanzwesen* (V. Unterausschuss), Berlin, p. 167ff.

35. The study included thirty-two banks, which had extended loans amounting to RM 8.5 billion at the end of 1928, namely the five Berlin *Grossbanken*, four regional joint stock banks, fourteen private banks, four government-owned banks, and five clearing banks (*Girozentralen*).

36. Reichsgesetz neber das Kreditwesen in der Fassung vom 13. Dezember 1935, RGBI. I, 1456. According to paragraph 9 of the law, banks had to name customers receiving more than RM 1 million over any two-month period. Reporting had to take place in February, April, June, August, October, and December. See Gaeckicke (1939).

37. Finally, Schacht, again Reichsbank President from 1933 to 1939, simultaneously became minister of the economy in August 1934 and plenipotentiary for the war economy in May 1935.

38. The tendency toward increased interlocking shareholdings between industry and banking already existed before World War I in Germany and Austria, and was called the "finance capital" by Hilferding (1910). At the time, however, the potential for "guidance" of the economy by the authorities via the banks was not used consciously. The main advance in the early twentieth century therefore was the recognition of the importance of this tool and its utilization by the authorities. While this increased the banks' role vis-à-vis companies, the banks themselves became subordinated to the official directors of credit.

39. Since 1934, dividends had been limited, rendering stocks similar to corporate bonds yielding a fixed interest. This made stock market investments less attractive and thus hampered the ability of firms to raise money in the equity market (*Kapitalanlagegesetz* of 29 March 1934, RGBI. I, p. 295; *Anleihestockgesetz* of December 4, 1934, RGBI. I, p. 1222).

40. While for most of the 1930s the government engaged in the direction of credit via its own institutions, funded by bonds or bills discounted largely by the central bank, in the last years of World War II, as during World War I, the simpler method of funding the munitions industries via the direction of bank loans was adopted, fostering close ties between banks and industry. In Germany, the *Hausbank* system is thus likely to be a more important prewar legacy than directed credit. Policies to direct credit were hardly ever employed by the post-war Bundesbank. The Austrian central bank, however, continued to employ them in the post-war era.

41. Schacht (1953).

42. For recent analytical overviews, please refer to Koslowski (1995), Hodgeson (2001), and Shionoya (2001).

43. The earliest leading German development economists were Fichte (1800), Mueller (1809), and List (1841).

44. See, for instance, Kurt Rathenau (1906).
45. See Rathenau (1917a, 1917b, 1918, 1919a, 1919b, 1919c).
46. Relevant members of the Historical School who were concerned with the role of money include Adam Mueller (1779–1829), Karl Knies (1821–1891), Georg F. Knapp (1882–1926), and Adolf Wagner (1835–1917).
47. The *de facto* dominance of bank debt over other forms of financing is not and was not unique to Germany and Japan. It is a pervasive fact. According to the *Sources of External Funds for Non-financial businesses in the U.S. 1970–1985*, during this time period only 2.1 percent of finance by American businesses took place via the equity market. Direct finance was used in less than 5 percent of external financing of American businesses. The most important source of external financing for American businesses were banks.
48. A modern reformulation can be found, for instance, in Diamond (1996): "The right to liquidate on default provides any outside lender with power over the borrower." (p. 65). Earlier versions include *Proverbs* 22:7: "the borrower is servant to the lender."
49. James (1998) mentions as one example Adolf Weber, who, he claims, argued for money endogeneity. According to James, the implication of the endogeneity of credit was reflected in the Reichsbank argument of 1922 that it was only reacting to the strong demand for money when its policy created the hyperinflation. However, there is substantially more evidence to argue that the German monetary and development economics argued for exogeneity of credit. This is certainly well documented in the case of Schacht's thinking and his actual policies. James's (1998, p. 85) somewhat contradictory claim that Schacht had no "coherent concept" for the future path of Reichsbank policies does not stand up to closer scrutiny.
50. Salin (1928) analyzed both benefits and dangers of directed credit. Herzfeldt (1930) developed a model of credit management.
51. Jensen and Meckling (1976) define agency costs of external financing as the monitoring expenditures by the principal, the bonding expenditures by the agent and the residual loss. Debt contracts also incur monitoring and bonding costs. While in equilibrium costs of both forms of funding would be identical (under the assumption of no transactions costs, no taxes or bankruptcy costs). However, free cash flow, which in principle should be returned to shareholders, gives rise to agency costs that can be reduced with debt financing. Furthermore, when comparing public debt and bank debt, the finance literature recognizes that banks have a monitoring over public debt. Razin et al. (1997) argue that without government intervention equity markets are not Pareto efficient in a model with asymmetric information between "insiders" and "outsiders" of the firms. By contrast, they show the debt market to be efficient, with respect to the scope and the amount of investment made by each firm.
52. "It is the purpose and function of the indirect guidance to induce a change in the relative returns in the economy through changes in prices on all markets, including goods, wages and interest, which in turn will trigger a reaction by economic agents that will induce the desired reorganization of production, the redirection of supply and a change in consumption" (pp. 235–56).
53. Concerning German monetary economists, to give but two examples:

Georg F. Knapp, *Die staatliche Theorie des Geldes* (Munich/Leipzig, 1905) was published in Japanese in 1922 (*Kaheikokuteigakuzetsu*, Iwanami Shoten, Tokyo); L. Albert Hahn, *Die volkswirtschaftliche Theorie des Bankkredits* (Jena, 1924) was published in Japanese in 1943 (*Ginkoshinyouno kokuminkeizaitekiron*, Tokyo: Jitsugyō no nihonsha). Both were also widely read in the German original soon after their publication, as German was the most frequently used foreign language among economists trained at Imperial universities.

54. Johnson (1982).
55. The overseas staff contributed to such reports by the Bank of Japan on the Reichsbank, as, for instance, Bank of Japan (1924, 1929).
56. "Ichimada saw in President Schacht the ideal central banker." Takita Youichi, "Seiki Nihon no Keizainin: Ichimada Hisato 1893–1984," *Nihon keizai shinbun*, 27 November 2000, p. 19.
57. Skidelsky (2001), in his chapter 6 on Keynes's "New Order," acknowledges the influence of Schacht on Keynes's economic policy proposals in 1941 (as well as on other British thinkers). Keynes proposed to "follow in Schacht's footsteps" (p. 75). Economists at the U.K. Treasury are identified as "Schachtian" (Hubert Henderson) or coined the neologism "to out-Schacht" someone (Dennis Robertson) (pp. 200 and 211, respectively)—often in the context of Schacht's foreign exchange controls of the 1930s.
58. Ichimada (1986, pp. 38–39).
59. Calder (1993) argues that at this stage, the central bank relied largely on the judgments by the Industrial Bank of Japan, rather than its own judgment (p. 38).
60. Bank of Japan, Sectoral bank credit statistics, 1942–1945, Tokyo.
61. Ito (1986) convincingly argues that the establishment of the National Financial Control Association in May 1942 established the precedent for postwar control of commercial bank credit by the central bank.
62. Before taking this position, he had spent four years in the Auditing Bureau, rising to chief of the Bureau in 1942, where he could monitor for what purpose money was used. He had a brief stint as manager of the Kyoto Branch, from March 1937 to October 1938.
63. Bank of Japan (1984), as quoted by Okazaki and Okino-Fujiwara (1999).
64. Personal interview with retired former member of the *Yūshū Assenbu*, who previously was stationed in Berlin until the end of the war in Europe, March 1993.
65. Takita Youichi, "Seiki nihon no keizainin: Ichimada hisato 1893–1984," *Nihon keizai shinbun*, November 27, 2000, p. 19.
66. In late 1943 and early 1944 an additional law, the *Gunju kaisha hō*, was instituted, according to which the top banks (henceforth called "designated munitions financial institutions") were assigned to the top one hundred fifty munitions companies. By 1945, over six hundred companies were funded through this system (called the *gunju shite kinryū kikan seido*). See van Wolferen (1989, p. 385).
67. Interview with retired former member of the *Yūshū assenbu*.
68. Thus most switched into war production, such as the piano maker Yamaha, which began the production of aircraft propellers—a war legacy that enabled the firm to diversify into motorbike production after the war.

69. See Okazaki et al. (1993). Werner (1999).

70. For details on how Ichimada solved the post-1945 bad debt problem quickly, again borrowing directly from Dr. Schacht's toolkit, see Werner (2002c, 2003).

71. Yoshino also notices the biggest difference in the central bank's control over the economy in the early postwar years in Japan, as compared to the Reichsbank's situation of the 1920s. Then, the German government already was not funding its deficit from the central bank and the Rentenmark was introduced already in February 1923. "Unfortunately in our country the credit controls do not operate in such an environment, and therefore could not have been as effective as in Germany" (p. 192). The reason was first, until 1947, the government could issue long-term bonds that the Bank of Japan could be made to underwrite, thus forcing an increase in its credit creation. By contrast, the Reichsbank was independent from the government and could not be forced to accept government bonds. Second, a government-owned financial institution existed, which was not subject to the Bank of Japan's credit controls, but the government effectively could force the central bank to extend credit to it. This was the Reconstruction Finance Bank, which had emerged from being the Reconstruction Finance Department inside the Industrial Bank of Japan to being a separate bank soon after the war. As a result, the effect of the controls could not work, although otherwise they would have worked (pp. 190, 191). However, Joseph Dodge of Detroit Bank, having drafted the West German currency reform in 1945-46, was invited to Japan where he quickly recognized these two problems and soon put a halt to both "leaks" to the central bank's direction of credit. Already in 1947, the Finance Law had been promulgated, prohibiting issuance of long-term government bonds. But the government issued short-term bonds. The Dodge Plan prescribed budget surpluses, overbalancing the budget and ending central bank underwriting of fiscal policy. Third, the plan suspended new loans from the Reconstruction Finance Bank, which was subsequently wound down. See Yoshino (1963), Nakamura (1995). In this context it is interesting to note that the Reconstruction Finance Bank during its existence also successfully engaged in the direction of credit and hence acted as a competing institution, not under the control of the central bank, but the Ministry of Finance. With its abolition, the Ministry of Finance agreed to fund all other government banks not through the central bank, but from postal savings. The central bank thus obtained a monopoly over the direction of credit creation (central bank and commercial bank credit).

72. See Patrick (1962), Kure (1973, 1975), Calder (1993), and Werner (2002a).

73. See van Wolferen (1989, p. 352). Ito (1986).

74. It also used other words, such as *Kreditkontingent* and *Kreditplafond*.

75. On details of terminology and practice of the Bank of Japan's credit controls, see Werner (2002a, 2003).

76. For details on the Bank of Japan's policies and policy objectives, see Werner (2002b).

77. This would naturally entail a suitable support policy of the banking sector to enable it to perform—such as the central bank providing sufficient liquidity (e.g. "over-loan")—as well as an explicit or implicit public guarantee on the solvency of the banking system. Furthermore, it implies the restriction of the

capital markets and the creation of close ties between banks and the firms that are in sectors targeted by the government policies.

78. In actual fact, savings campaigns to increase bank deposits were implemented in both Germany and Japan before 1945, in parallel with the establishment of bank-centered corporate governance structures.

79. In their theoretical treatment, Cho and Hellmann (1993) indeed suggest that government involvement in the credit market would extend to intervention in the corporate governance structure, concluding that it was "the comprehensive involvement of the government, that went well beyond the simple provision of subsidized credit programs and encompassed the governance over the major participants in the development drive (both banks and firms) that seems to differentiate the Japanese and Korean experiences with credit policies from those in other countries" (p. 26).

80. On Taiwan, for instance, Shea (1994) reports that the ministry of finance and the central bank "often have ordered financial institutions to expand or restrict loans to certain economic activities, industries, or borrower groups. The purpose was usually to promote economic growth or to stabilize the economy. . . . For example, financing real estate transactions was limited or even forbidden when property markets were considered speculative. . . . To promote growth, the government adopted policies to accommodate the financing needs of specific industries and economic activities. These policies include export financing, industrial financing, machine-import financing, strategic-industry financing, emergency financing, and the establishment of specialized banks" (p. 250).

81. Schumpeter's case is instructive. Having been for all means and purposes a leading member of the Historical School until about the mid-1920s, from 1927 onward, after his first visit to Harvard, where he obtained a permanent post in 1932, he became critical of the research program of the German Historical School and its members (see Hodgson 2001). For instance, Schumpeter (1942) criticized members of the *Verein fuer Socialpolitik*, because their "work often lacked scientific refinement" (p. 342). It is this view that appears to have prevailed in the English-speaking economics profession. For a more balanced assessment of the *Verein*, see Hagemann (2001).

82. Recent growth theories acknowledge the importance of the human resource aspect of "labor." While neglected in static models and policy advice, human resources are at the center of the German development economics.

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